

US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD

1. Chemical: SC-0224
2. Test Material: R-50224 4LC, 40.1% ai
3. Study Type: Honey bee acute contact LD₅₀

Species tested: Apis mellifera

4. Study ID: Atkins, E.L. (1982) Letter to Dr. Jeff Miller, Stauffer Chemical Co., with data attached. Data developed by E.L. Atkins, Univ. of California, Riverside. Submitted by Stauffer Chemical Co., Richmond, CA. EPA Accession No. 250545.

5. Reviewed by: Allen W. Vaughan
Entomologist
EEB/HED

Signature: *Allen W. Vaughan*

Date: 1/8/87

6. Approved by: Norman Cook
Supervisory Biologist
EEB/HED

Signature: *Norman Cook*

Date: 1-8-87

7. Conclusions:

This study is scientifically sound. With a 96-hour LD₅₀ greater than 62.135 micrograms per bee, SC-0224 4LC is considered essentially nontoxic to honey bees.

This study fulfills the Guideline requirement for an acute contact toxicity test on honey bees.

8. Recommendations: N/A.

9. Background:

This study was submitted in support of registration.

10. Discussion of Individual Tests: N/A.

11. Materials and Methods:

- a. Test animals were worker honey bees, Apis mellifera, obtained from university colonies.

Test system: SC-0224 was blended with a nontoxic dust diluent, pyrolite; dust mixture was distributed over bees in cages using a bell jar duster. Dusted bees were transferred into clean holding cages and provided with 50% honey/water solution. Bees were kept at 80 °F and 65% relative humidity.

- b. Dose: Dust application using bell jar; pyrolite dust diluent.
- c. Design: Approximately 100 bees per dose level and control, divided into three reps.; replicated three times over time. Three dose levels (20.71, 41.42, and 62.135 micrograms per bee).
- d. Statistics: Due to very low mortality, no analysis was performed.

12. Reported Results:

The study author found that mortality at the highest dosage tested (62.135 micrograms per bee) was 6.12% at 96 hours. Thus, the LD₅₀ value is determined to be greater than 62.135 ug/bee.

In addition, the test material did not produce a stomach poison effect on the bees.

13. Study Authors' Conclusions/QA Measures:

96-hour LD₅₀ greater than 62.135 ug/bee (40.1% ai formulation).

14. Reviewer's Discussion and Interpretation of the Study:

- a. Test Procedures: Test procedures were in accordance with protocols recommended in the Guidelines. There were no problems in this regard.
- b. Statistical Analysis: Due to very low mortality at all treatment levels, no analysis was performed.
- c. Discussion/Results: With a 96-hour acute contact LD₅₀ greater than 62.135 ug/bee, SC-0224 is practically nontoxic to honey bees.

d. Adequacy of Study:

1. Classification: Core.
2. Rationale: Guideline protocol.
3. Reparability: N/A.

15. Completion of One-Liner: N/A.

16. CBI Appendix: N/A.